Abstract Title Page
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Title: Measuring Family-School Relations for School Reform and Improvement

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Abstract Body

Limit 4 pages single-spaced.

Problem / Background / Context:

Description of the problem addressed, prior research, and its intellectual context.

Educational researchers have long conceived of family-school engagement as one potential pathway through which family background influences children's academic and long-term outcomes, given variation by social class in family involvement with children's schools (Lareau, 1987, 1989, 2002; Lareau & Shumar, 1996; Schneider & Coleman, 1993). A series of meta-analyses have documented a notable association between family engagement with children's learning and students' academic outcomes (Fan & Chen, 2001; Hill & Tyson, 2009; Jeynes, 2003, 2005, 2007). Family-school engagement is also associated with effective school-level reform and improvement efforts. The University of Chicago Consortium on Chicago School Research examined the commonalities between schools that experienced academic improvement over a period of seven years in the Chicago Public School system and identified five essential characteristics that were in place at improved schools, one of which was strong relationships between parents[1] and schools (Bryk, Sebring, Allensworth, Luppescu, & Easton, 2010).

This body of research has helped spark a series of policy efforts to promote family-school engagement at federal, state, and district levels, often as a key strategy for turning around persistently low-performing schools (Gehlbach, Mapp, Capotosto, Bahena, Schueler & Garland, 2013). While some scholars argue that these policies could mitigate educational inequality, others caution that universal family involvement promotion efforts have the potential to reinforce patterns of educational inequality. Scholars have documented class-based differences in the skills, confidence, and orientation necessary for parents to effectively intervene in school affairs (Diamond & Gomez, 2004; Lareau, 1987, 1989, 2002; Lareau & Munoz, 2012; McGrath & Kuriloff, 1999).

To the extent that family engagement does indeed improve students' chances for academic success, class-based differences in family-school relations could contribute to class-based achievement gaps. Pro-engagement policy efforts could mitigate inequality if they successfully encourage involvement among the least engaged parent populations. However, universal family involvement promotion efforts have the potential to reinforce educational inequality if they simply provide more support for already engaged parents to either stay involved or increase their involvement (Lareau & Shumar, 1996; Fine, 1993).

Therefore, additional research is needed to examine whether these programs decrease or reinforce inequality and to identify what policies and practices best encourage engagement among those parents whose children would benefit most. At the school level, to effectively target and promote engagement, educators need to understand how parents perceive the degree to which they engage, whether parents' perceptions align with the school's view, as well as the barriers that parents believe prevent them from getting involved (Hoover-Dempsey et al., 2005; Hoover-Dempsey & Sandler, 1997).

[1] I use "parent" as a shorthand to describe all types of primary caregivers including legal guardians, grandparents, aunts, kin, etc.

Purpose / Objective / Research Question / Focus of Research:
Description of the focus of the research.

Before scholars and educators are able to address these questions, they must be able to accurately measure engagement-related constructs. Unfortunately, there are a limited number of existing tools designed to measure family-school engagement, and particularly barriers to engagement. Of those that do exist, some are designed to assess teacher rather than parent perceptions (Consortium on Chicago School Research, 2003). In other instances, existing measures do not take advantage of several best practices in survey design – for example, avoiding statements and agree-disagree response anchors (rather than questions and construct specific response anchors), double-barreled items, and negatives or reverse scored items (Artino, Gehlbach & Durning, 2011). Thus, some of these scales have additional sources of measurement error (DeVellis, 2003). This presentation and paper will describe the process our research team used to develop a set of survey tools that assess parents' perceptions of their engagement with their children's schools and the barriers they perceive prevent them from becoming more involved.

Improvement Initiative / Intervention / Program / Practice:
Description of the improvement initiative or related intervention, program, or practice.

The existing research showing an association between family-school engagement and student outcomes has contributed to a series of policy interventions that attempt to promote family-school engagement as part of a strategy for improving low-performing schools. For instance, the U.S. Department of Education (ED) has prioritized the promotion of engagement efforts through its signature competitive grant programs, including the School Improvement Grant (SIG) program aimed at turning around the nation's lowest performing schools. The "Transformation Model," one of the four intervention model options available to SIG grantees, requires schools to support family and community engagement (ED, 2013). Districts and schools receiving more than $500,000 in federal Title I funding through the 2001 No Child Left Behind Act must utilize at least one percent of these funds for family involvement efforts (National PTA, 2009). At the district level, there has been a major increase in the number of senior-level positions dedicated to family and community engagement initiatives over the past ten years—from one position in 2003 to over 125 in 2013 (Gehlbach et al., 2013). In this presentation, I will discuss how researchers can use the tool our team has created to assess the value of these and related policies and programs, and how educators can use these tools as part of their own school improvement efforts (e.g., to identify areas for improvement and to track progress over time).

Setting:
Description of the research location and partners involved, if applicable.

The creation of these survey items was part of a larger project in which our research team developed a series of survey scales to assess the important dimensions of family-school relations. This project was conducted in partnership with the online survey company *SurveyMonkey*. *SurveyMonkey* invited our institution to participate in the development of these scales after they had been approached by several schools and districts seeking tools to measure parent opinions.

Population / Participants / Subjects:
Description of the participants in the research: who, how many, key features, or characteristics.

We conducted three large scale studies by administering our survey items to three samples of parents (n = 385; n = 251; n = 589). All three samples were drawn from *SurveyMonkey's* national panel of almost one million volunteers who have agreed to respond to online surveys. *SurveyMonkey* recruits members by asking people who create and take other surveys on their website, "if they would like to take additional surveys to benefit charities and have a chance to win rewards."[2] *SurveyMonkey* invited panel members with children between the ages of five and 18 to take our online survey and administered it to those who elected to participate. The resulting samples, which we describe in Table 1, were geographically diverse and included parents of children in a range of grades, but were slightly more affluent, educated and likely to speak primarily English at home than average Americans.

As we describe in the Research Design section below, even before administering our survey items, our scale development process involved multiple stages, several of which required distinct samples of participants. For our focus groups (n = 10) and interviews (n = 6), we recruited participants through our research team's professional and personal networks as well as snowball sampling. Our sample included mothers (and one grandmother) of elementary, middle school, and high school students, low-income parents, and both native and non-native English speakers. Our sample included participants who identified as Hispanic, Black, White, and Multiracial. Respondents' children attended public schools in urban and suburban districts in the Northeastern U.S. For our expert review procedure, we identified scholars (n = 31) familiar with family-school relationships by reviewing the academic literature and by asking for recommendations from well-known experts in this field.

Research Design:
Description of the research design.

To develop our engagement scale and set of barriers items, we used Gehlbach and Brinkworth's (2011) six-step process for designing survey instruments. The goal of this process is to build in validity from the beginning of the design process by front-loading input from both scholars and potential respondents. We first reviewed the extant literature on the topic of family-school relationships and identified the key components of family-school engagement based on the models developed by Joyce Epstein (1987, 1995, 2002, 2009) as well as Kathleen Hoover-Dempsey and colleagues (2005, 1997). Next, we interviewed ten parents about their relationships with their children's schools and the universe of barriers families encounter to engaging with those schools.

We then created items to represent the central facets of each scale by combining what we found in the literature with our interview data. We worded our items using language that we heard parents use in our interviews. We revised questions after multiple experts (n = 31) in the field conducted a review of our items. Finally, we employed a cognitive pretesting procedure with six parents, asking them to repeat each question in their own words and think out loud while coming

[2] http://help.*SurveyMonkey*.com/app/answers/detail/a_id/5654

to their answer to ensure respondents understood the questions as we had intended (Karabenick et al., 2007).

Data Collection and Analysis:
Description of the methods for collecting and analyzing data or use of existing databases.

After making final edits to our items, we conducted three studies with national samples of parents to gather evidence of scale score reliability and valid score inferences based on convergent/discriminant validity for our engagement scale, as well as to determine whether the engagement and barriers items captured ample variation. Our primary data analytic procedures revolved around using confirmatory factor analysis (CFA) to provide evidence of the factor structure of the scale. We conducted these analyses using the M*plus* version 7, treating indicators as ordinal (Asparouhov & Muthén, 2006). We also relied on Stata Version 12 (StataCorp, 2013) for reliability analyses and descriptive statistics to assess item- and scale-level variability.

Findings / Outcomes:
Description of the main findings or outcomes, with specific details.

In Study One, we identified a theoretically-grounded engagement model that fit our data reasonably well ($\chi^2 = 7.90$, $df = 2$, $p < .05$; $CFI = 1.00$; $RMSEA = .09$ [$90\%\ CI = .03, .16$]; No correlation residuals > |.10|; No modification indices > 10) (Kline, 2011), and we replicated these results in Study Two and Three. Total scores had fairly strong internal consistency with the samples from Study One ($\alpha = .81$), Two ($\alpha = .73$), and Three ($\alpha = .77$). We did not expect our items to be any more highly correlated given we expect that different families engage in different ways. Our measure was highly correlated with other pre-existing measures geared toward assessing similar constructs and only weakly correlated with related, but distinct measures, providing further evidence that our items function as intended.

Conclusions:
Description of conclusions, recommendations, and limitations, based on findings.

Social scientists have long conceived of family-school engagement as one potential pathway through which family background influences children's outcomes. Given the correlation between family-school engagement and student outcomes and the association between social class and engagement, many policymakers currently view pro-engagement programs as a key component of efforts to turnaround persistently low performing schools. However, additional research is required to ensure that these policies contribute to a narrowing of class-based achievement gaps, and an essential first step is accurate measurement of the relevant constructs.

The findings from our recent studies suggest that educational leaders and researchers alike can now use our items to measure parent perceptions of their engagement with the school and the barriers they face to becoming more involved. These tools can aid educators in identifying groups of parents that are less engaged and in need of targeted outreach efforts, designing family-engagement strategies that are tailored to their communities, and tracking their progress at encouraging engagement over time. Researchers can rely on these tools to better understand the ways in which family-school engagement can be harnessed to alleviate, rather than reinforce, educational inequality.

Appendices

Not included in page count.

Appendix A. References

References are to be in APA version 6 format.

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Appendix B. Tables and Figures

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Table 1

Background and Demographic Characteristics of the Three Samples

Percent	Study 1 (*n* =385)	Study 2 (*n* =266)	Study 3 (*n* =589)
Child's grade			
With children in elementary school (PreK-5)	43.44	43.52	41.45
With children in middle school (6-8)	23.03	22.22	24.53
With children in high school (9-12)	33.53	34.26	34.02
Relationship to child			
Mothers	35.47	39.63	51.15
Fathers	58.43	52.07	43.13
Other (e.g., Stepparents, Grandparents, Guardians)	6.1	8.29	5.73
Average annual household income			
$0-49,999	21.07	16.13	20.38
$50,000-99,999	35.61	41.01	38.85
$100,000-149,999	24.33	25.35	23.65
$150,000-199,999	10.98	11.98	9.23
$200,000 and up	8.01	5.53	7.88
Highest level of education			
Less than high school	0.58	2.2	2.85
High school degree	6.65	9.69	9.70
Some college	30.35	20.7	27.38
Associate or bachelor's degree	36.13	37	38.02
Graduate degree	26.3	30.4	22.05
Race/ethnicity of child			
White/Caucasian	74.85	72.9	68.08
Hispanic American	7.31	9.35	8.66
Black or African American	5.85	7.01	7.47
Asian or Pacific Islander	3.8	1.4	4.07
Multiple ethnicity/Other	8.18	9.35	5.60
Language			
English is child's primary language	96.81	94.91	97.89

Table 2

Engagement and Barriers Items

Item Code	Item Text	Answer Choices[a]				
	Engagement Scale					
MEET	How often do you meet in person with teachers at your child's school?	Almost never	Once or twice per year	Every few months	Monthly	Weekly or more
GROUP	How involved have you been with a parent group(s) at your child's school?	Not at all involved	A little involved	Somewhat involved	Quite involved	Extremely involved
PARENTS	In the past year, how often have you discussed your child's school with other parents from the school?	Almost never	Once or twice	Every few months	Monthly	Weekly or more
HELPED	In the past year, how often have you helped out at your child's school?	Almost never	Once or twice	Every few months	Monthly	Weekly or more
	School Invitational Barriers Sub-scale					
	How big of a problem are the following issues for becoming involved with your child's current school?					
UNSURE	You feel unsure about how to communicate with the school	Not a problem at all	Small problem	Medium problem	Large problem	Very large problem
WELCOME	The school is not welcoming to parents	Not a problem at all	Small problem	Medium problem	Large problem	Very large problem
INFO	The school provides little information about involvement opportunities	Not a problem at all	Small problem	Medium problem	Large problem	Very large problem
CULTURE	The school doesn't communicate well with people from your culture	Not a problem at all	Small problem	Medium problem	Large problem	Very large problem
BUSY	School staff seem too busy	Not a problem at all	Small problem	Medium problem	Large problem	Very large problem
TREAT	You worry that adults at the school will treat your child differently if you raise a concern	Not a problem at all	Small problem	Medium problem	Large problem	Very large problem
BELONGING	You do not feel a sense of belonging with your child's school community	Not a problem at all	Small problem	Medium problem	Large problem	Very large problem
	Set of Individual Barriers Items					
	How big of a problem are the following issues for becoming involved with your child's current school?					
SCHEDULE	How busy your schedule is	Not a problem at all	Small problem	Medium problem	Large problem	Very large problem
TRANSPORT	Transportation-related challenges	Not a problem at all	Small problem	Medium problem	Large problem	Very large problem
CHILDCARE	Childcare needs	Not a problem at all	Small problem	Medium problem	Large problem	Very large problem
SAFELY	Concerns about getting to the school safely	Not a problem at all	Small problem	Medium problem	Large problem	Very large problem
WANT	Your child does not want you to contact the school	Not a problem at all	Small problem	Medium problem	Large problem	Very large problem
MEMORIES	Negative memories of your own school experience	Not a problem at all	Small problem	Medium problem	Large problem	Very large problem

[a]These represent the answer choices available in Study One and Two. In Study Three, we provided the following six (as opposed to five) answer choices for the engagement items: Almost never, Once or twice per year, Every few months, Monthly, Every few weeks, Weekly or more.

Table 3

Means, Standard Deviations, and Interitem Correlations for Engagement Scale with Study One (n = 385), Two (n = 266) and Three (n = 589) Samples

	Study 1				Study 2				Study 3			
	Mean	SD	Min	Max	Mean	SD	Min	Max	Mean	SD	Min	Max
MEET	2.71	1.09	1	5	2.71	1.09	1	5	2.95	1.34	1	6
GROUP	2.48	1.23	1	5	2.47	1.18	1	5	2.35	1.26	1	5
PARENTS	2.93	1.34	1	5	3.02	1.22	1	5	3.30	1.64	1	6
HELPED	2.40	1.31	1	5	2.55	1.26	1	5	2.96	1.63	1	6

Interitem Correlations

	Study 1			Study 2			Study 3		
	MEET	GROUP	PARENTS	MEET	GROUP	PARENTS	MEET	GROUP	PARENTS
MEET	1			1			1		
GROUP	.44	1		.31	1		.33	1	
PARENTS	.35	.59	1	.27	.35	1	.35	.47	1
HELPED	.50	.67	.49	.46	.57	.44	.49	.60	.48

Table 4

Parameter Estimates and Correlations Residuals for the Engagement Model with Samples One (n = 385), Two (n = 251), and Three (n = 544)

Factor Loadings												
Item	Estimated			SE			p-value			Standardized		
	Study 1	Study 2	Study 3	Study 1	Study 2	Study 3	Study 1	Study 2	Study 3	Study 1	Study 2	Study 3
MEET	1.00	1.00	1.00	.00	.00	.00	.00	.00	.00	.60	.55	.56
GROUP	1.48	1.26	1.36	.10	.13	.09	.00	.00	.00	.89	.69	.76
PARENTS	1.16	1.00	1.17	.09	.12	.09	.00	.00	.00	.70	.55	.65
HELPED	1.39	1.69	1.53	.09	.19	.10	.00	.00	.00	.83	.93	.86

Correlation Residuals												
	MEET			GROUP			PARENTS			HELPED		
	Study 1	Study 2	Study 3	Study 1	Study 2	Study 3	Study 1	Study 2	Study 3	Study 1	Study 2	Study 3
MEET												
GROUP	-.04	-.02	-.06									
PARENTS	-.02	.00	.02	.03	.02	.03						
HELPED	.05	.01	.03	.00	.00	.01	-.03	-.01	-.04			

Table 5

Bivariate Correlations Between Scales with Study Two and Study Three Samples

Study Two Sample (n = 251)					
Scale	Engagement	Walker et al. Time & Energy	NCES School Satisfaction	Fast Track School Climate	Schueler et al. School Climate
Engagement	-				
Walker et al. Time and Energy	.52	-			
NCES School Satisfaction	.22	.32	-		
Schueler et al. School Climate	.32	.38	.81	.84	-
Hoover-Dempsey et al. Parent Self-Efficacy	.20	.28	.19	.21	.20

Study Three Sample (n = 589)		
	Engagement	Hoover-Dempsey et al. Parent Self-Efficacy
Engagement	-	
Hoover-Dempsey et al. Parent Self-Efficacy	.27	-
Walker et al. General School Involvement	.69	.31

Note: All correlations are significant at the .01 level.

Table 6

Parameter Estimates for the School Invitational Barriers Model with Samples One (n = 347) and Two (n = 225)

Factor Loadings

Item	Est.		SE		p		Std.	
	Study 1	Study 2	Study 1	Study 2	Study 1	Study 2	Study 1	Study 2
UNSURE	1.00	1.00	.00	.00	.00	.00	.77	.74
WELCOME	1.17	1.18	.05	.09	.00	.00	.91	.88
INFO	1.06	1.04	.06	.08	.00	.00	.82	.77
CULTURE	1.11	1.01	.05	.08	.00	.00	.86	.75
BUSY	1.09	1.12	.05	.10	.00	.00	.84	.83
TREAT	1.06	1.13	.05	.08	.00	.00	.82	.84
BELONGING	1.12	1.10	.05	.07	.00	.00	.87	.82

Correlation Residuals

	UNSURE		WELCOME		INFO		CULTURE		BUSY		TREAT	
	Study 1	Study 2	Study 1	Study 2	Study 1	Study 2	Study 1	Study 2	Study 1	Study 2	Study 1	Study 2
UNSURE												
WELCOME	.04	.00										
INFO	-.01	.02	.05	.01								
CULTURE	-.01	-.02	-.06	-.01	-.10	.00						
BUSY	-.07	-.04	.02	-.02	-.07	.02	.07	.04				
TREAT	-.04	-.01	-.03	.02	-.06	-.10	.02	-.03	.05	.03		
BELONGING	.03	.04	-.05	-.01	.04	.02	-.01	.01	-.06	-.04	.03	.01

Table 7

Means, Standard Deviations, and Interitem Correlations for Barriers Items with Study One and Two Pooled Sample (n = 636)

			Interitem Correlations											
			Set of Individual Barriers Items						Invitational Barriers Sub-scale					
	Mean	SD	SCHE-DULE	TRAN-SPOR	CHILD-CARE	SAFE-LY	WANT	MEMO-RIES	UN-SURE	WELC-OME	INFO	CULT-URE	BUSY	TREAT
Set of Individual Barriers Items														
SCHEDULE	2.80	1.20	1.00											
TRANSPORT	1.74	1.06	.28	1.00										
CHILDCARE	1.62	1.03	.37	.40	1.00									
SAFELY	1.29	0.69	.17	.34	.31	1.00								
WANT	1.33	0.82	.06	.10	.20	.37	1.00							
MEMORIES	1.37	0.83	.17	.18	.26	.31	.32	1.00						
Invitational Barriers Sub-scale														
UNSURE	1.36	0.77	.17	.17	.28	.39	.43	.44	1.00					
WELCOME	1.40	0.86	.09	.10	.14	.30	.32	.29	.53	1.00				
INFO	1.58	0.97	.13	.04	.15	.26	.29	.14	.46	.60	1.00			
CULTURE	1.21	0.71	.07	.16	.22	.40	.40	.33	.43	.46	.37	1.00		
BUSY	1.58	0.97	.14	.18	.19	.33	.31	.36	.46	.62	.51	.52	1.00	
TREAT	1.52	1.01	.08	.09	.14	.34	.30	.30	.44	.60	.45	.47	.64	1.00
BELONGING	1.55	1.00	.11	.10	.16	.28	.31	.27	.52	.59	.56	.45	.54	.61

Note: Min=1 and max=5 for all items.